

AMENDMENT UNDER 37 C.F.R. §1.111
U.S. APPLN. NO. 10/668,309
Docket No. Q77243

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) A harness comprising:

a cable comprising a plurality of conductors surrounded by an insulating covering and arrayed in a substantially flat configuration; and

a plurality of connectors installed at locations along the longitudinal direction of said cable and comprising connection terminals that connect to ones of said plurality of conductors, and connect external circuits to said ones of said plurality of conductors; wherein:

at least one of said plurality of connectors is a relay connector, and the relay connector is installed between two of the other ones of said plurality of connectors;

said relay connector comprises a plurality of said connection terminals;

a selected one of said ones of said plurality of conductors to which said connection terminals are connected is cut at a position between the connection terminals; and

the connection terminals disposed at both sides of cut parts of said conductors form respectively different circuits;

wherein said relay connector comprises:

a connector housing; and

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a mold part that is formed at an end on one side of the connector housing and seals the proximal ends of said connecting terminals which are connected to the conductors of said cable in said connector housing;

wherein said mold part extends along the cable at a greater distance than the connector housing in a direction of extension of the cable, and comprises grooves arranged orthogonally to the direction of extension of the cable; wherein said grooves allow the ends of the mold part to flex and prevent breakage of the mold part and the cable.

2. (original) A harness according to claim 1, wherein said cable is a flat cable having a structure in which each conductor of said plurality of conductors is covered by an insulating covering, and each of these insulating coverings are joined together.

3. (original) A harness according to claim 2, wherein each conductor is cylindrical in cross section.

4. (original) A harness according to claim 1, wherein said cable is a flexible flat cable having a structure wherein said plurality of conductors is covered by an insulating covering formed so as to be flat by lamination or extrusion.

5. (canceled).

6. (original) A cable according to claim 1, wherein said connection terminals are crimping-style terminals that have a crimping part which holds insulating covering of said cables at the proximal end side and interposes and crimps said conductors therebetween.

7. - 8. (canceled).

9. (currently amended) ~~A harness according to claim 1,~~ A harness comprising:
a cable comprising a plurality of conductors surrounded by an insulating covering and
arrayed in a substantially flat configuration; and
a plurality of connectors installed at locations along the longitudinal direction of said
cable and comprising connection terminals that connect to ones of said plurality of conductors,
and connect external circuits to said ones of said plurality of conductors; wherein:
at least one of said plurality of connectors is a relay connector, and the relay connector is
installed between two of the other ones of said plurality of connectors;
said relay connector comprises a plurality of said connection terminals;
a selected one of said ones of said plurality of conductors to which said connection
terminals are connected is cut at a position between the connection terminals; and
the connection terminals disposed at both sides of cut parts of said conductors form
respectively different circuits;
wherein said cut in said selected one of said ones of said plurality of conductors is
arranged within said relay connector;

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wherein said relay connector comprises:

a relay connector housing; and

a mold part that is formed at an end on one side of the relay connector housing and seals the proximal ends of said connecting terminals which are connected to the conductors of said cable in said relay connector housing;

wherein said mold part extends along the cable at a greater distance than the relay connector housing in a direction of extension of the cable, and comprises grooves arranged orthogonally to the direction of extension of the cable; wherein said grooves allow the ends of the mold part to flex and prevent breakage of the mold part and the cable.

10. - 11. (canceled).

12. (currently amended) A harness according to ~~claim 10~~claim 9, wherein cutting scraps from said cut in said selected one of said ones of said plurality of conductors are sealed in said connector housing by said mold part.

13. (currently amended) ~~A harness according to claim 10,~~ A harness comprising:
a cable comprising a plurality of conductors surrounded by an insulating covering and arrayed in a substantially flat configuration; and

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a plurality of connectors installed at locations along the longitudinal direction of said cable and comprising connection terminals that connect to ones of said plurality of conductors, and connect external circuits to said ones of said plurality of conductors; wherein:

at least one of said plurality of connectors is a relay connector, and the relay connector is installed between two of the other ones of said plurality of connectors;

said relay connector comprises a plurality of said connection terminals;

a selected one of said ones of said plurality of conductors to which said connection terminals are connected is cut at a position between the connection terminals; and

the connection terminals disposed at both sides of cut parts of said conductors form respectively different circuits;

wherein said cut in said selected one of said ones of said plurality of conductors is arranged within said relay connector;

wherein said relay connector comprises:

a relay connector housing; and

a mold part that is formed at an end on one side of the relay connector housing and seals the proximal ends of said connecting terminals which are connected to the conductors of said cable in said relay connector housing

wherein said selected one, of said ones of said plurality of conductors, that is cut and separated is sealed in said connector housing by said mold part in a state in which each of two cut surfaces are respectively bent so as not to contact or face each other.

14. (currently amended) A harness according to ~~claim 10~~claim 9, wherein the relay connector housing comprises positioning projections that are inserted in said cut in said selected one of said ones of said plurality of conductors, for positioning each of the conductors of said cable and said connection terminals.

15. - 23. (canceled).

24. (currently amended) A harness comprising:
a cable comprising a plurality of conductors surrounded by an insulating covering and arrayed in a substantially flat configuration;

a relay connector installed on the cable; and

at least two connectors, each one installed on the cable on either side of the relay connector, wherein:

a first one of said plurality of conductors extends from a first one of said connectors, passes through said relay connector, and extends to a second one of said connectors; and

a second one of said plurality of conductors extends from the first connector to the relay connector, is cut within the relay connector, and then extends from the relay connector to the second connector;

wherein said first, second and relay connectors are electrically connected to specific conductors by way of connection terminals, wherein

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said connection terminals comprise crimping-style terminals that have a crimping part which holds an insulating covering of the cables and interposes and crimps said conductors therebetween;

wherein said first, second and relay connectors comprise:

a connector housing; and

a mold part that is formed at an end on one side of the connector housing and seals the proximal ends of said connecting terminals which are connected to the specific conductors of said cable in said connector housing;

wherein said mold part extends along the cable at a greater distance than the connector housing in a direction of extension of the cable, and comprises grooves arranged orthogonally to the direction of extension of the cable; wherein said grooves allow the ends of the mold part to flex and prevent breakage of the mold part and the cable.

25. (original) A harness according to claim 24, wherein said cable is a flat cable having a structure in which each conductor of said plurality of conductors is covered by an insulating covering, and each of these insulating coverings are joined together.

26. (original) A harness according to claim 25, wherein each conductor is cylindrical in cross section.

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27. (original) A harness according to claim 24, wherein said cable is a flexible flat cable having a structure wherein said plurality of conductors is covered by an insulating covering formed so as to be flat by lamination or extrusion.

28. - 31. (canceled).

32. (currently amended) A harness according to ~~claim 30~~ claim 24, wherein cutting scraps from said cut in said second one of said plurality of conductors are sealed in said connector housing by said mold part.

33. (currently amended) ~~A harness according to claim 30,~~ A harness comprising:
a cable comprising a plurality of conductors surrounded by an insulating covering and
arrayed in a substantially flat configuration;

a relay connector installed on the cable; and
at least two connectors, each one installed on the cable on either side of the relay
connector, wherein:

a first one of said plurality of conductors extends from a first one of said connectors,
passes through said relay connector, and extends to a second one of said connectors; and

a second one of said plurality of conductors extends from the first connector to the relay
connector, is cut within the relay connector, and then extends from the relay connector to the
second connector;

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wherein said first, second and relay connectors are electrically connected to specific conductors by way of connection terminals, wherein

said connection terminals comprise crimping-style terminals that have a crimping part which holds an insulating covering of the cables and interposes and crimps said conductors therebetween;

wherein said first, second and relay connectors comprise:

a connector housing; and

a mold part that is formed at an end on one side of the connector housing and seals the proximal ends of said connecting terminals which are connected to the specific conductors of said cable in said connector housing;

wherein said second one of said plurality of conductors that is cut and separated is sealed in said connector housing by said mold part in a state in which each of two cut surfaces are respectively bent so as not to contact or face each other.

34. (currently amended) A harness according to ~~claim 30~~claim 24, wherein the connector housing comprises positioning projections that are inserted in said cut in said second one of said plurality of conductors, for positioning each of the conductors of said cable and said connection terminals.

35. (new): A harness according to claim 13, wherein the relay connector housing comprises positioning projections that are inserted in said cut in said selected one of said ones of

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said plurality of conductors, for positioning each of the conductors of said cable and said connection terminals.

36. (new): A harness according to claim 33, wherein the connector housing comprises positioning projections that are inserted in said cut in said second one of said plurality of conductors, for positioning each of the conductors of said cable and said connection terminals.